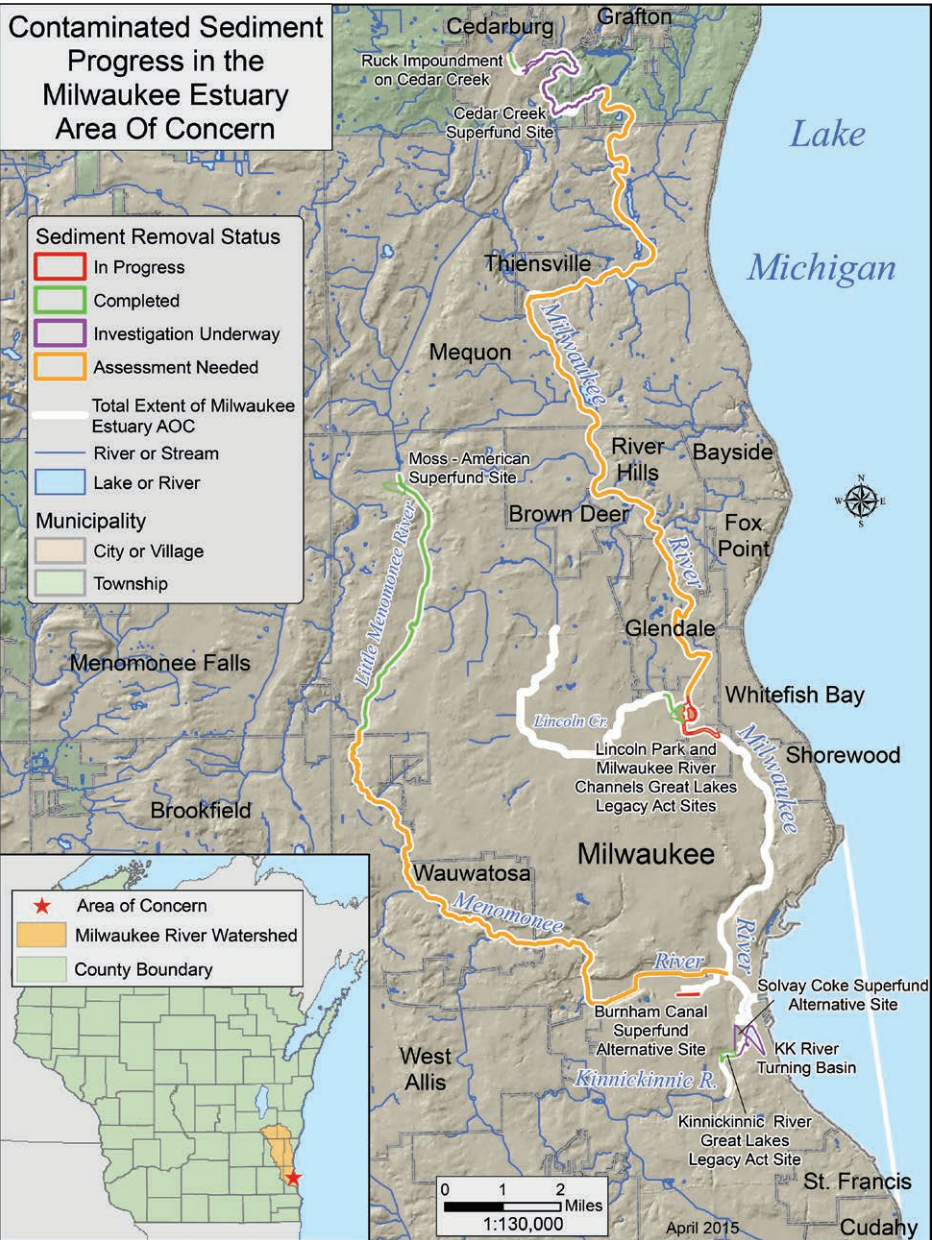


Milwaukee Estuary Area of Concern

Reaching our targets will lead us to our goal of delisting the AOC, which means the ecological benefits of the Milwaukee estuary have been restored to an acceptable level. We will know we have achieved this when public uses are no longer impaired by legacy contamination and native plants and wildlife are sustainably protected. As toxic sediment is removed and habitat restoration continues, the river is becoming a more and more valuable resource for recreation and the local economy.



Arrowhead and kingfisher illustrations by Cindie Brunner

Milwaukee Estuary – part of the largest fresh surface water resource in the world – the Great Lakes ecosystem

For more details about AOC progress and projects, refer to the Area of Concern Remedial Action Plan Updates, available at <http://dnr.wi.gov/topic/greatlakes/aoc.html>



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Milwaukee Estuary Area of Concern

BENEFICIAL USE IMPAIRMENT RESTORATION REPORT

Summer 2015

The Milwaukee Estuary was designated an Area of Concern (AOC) in the 1980s because contaminated river sediment impaired public benefits such as fish consumption, healthy fisheries, boat access and wildlife habitat.



Dave Turicoma

Juvenile Lake Sturgeon



Scott and Tracy Garharz

Pierhead lighthouse.



Pamela A. Garzone

Fishing in the harbor.



Gail Epping Overholt

Kayaking the Milwaukee River.

The Wisconsin Department of Natural Resources (WDNR) and citizen groups identified 11 Beneficial Use Impairments (BUIs) to target here for improving the river.

See progress report inside ➡



Gail Epping Overholt

Milwaukee River.



Marc Ponto

Bradford Beach.

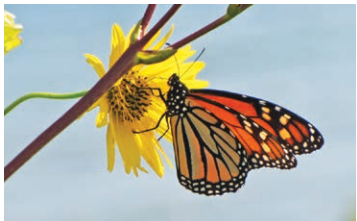
Milwaukee Estuary AOC – Restoration Status Update

Summer 2015

Tackling AOC problems, known as Beneficial Use Impairments in the Area of Concern program, requires several steps. We must understand the causes and define the extent of the impairments through monitoring, assessment and data analysis. We then determine the necessary actions to address the problems, and implement them.

Actions to address AOC problems can be large and complex, requiring the coordinated efforts of many partners over multiple years. Upon completing the necessary actions, we must verify through monitoring that we have achieved our goals for cleanup and restoration. Once the goals have been met and the problems have been addressed, the AOC designation can be removed.

This update shows the current status (Summer 2015) of the removal process for 11 impairments of the Milwaukee Estuary AOC – *complete, underway, or not started* – and the next steps. Dates in parentheses indicate the anticipated project completion.



Monarch Butterfly.

Wendi Huffman

River cleanups remove toxins contaminating fish. Right: Sediment is analyzed in Lincoln Creek. Below: Restoring the Kinnickinnic River.



UV-Extension



Goal Epping Overholt



WDNR

BUI Removal Phases:

MA MONITOR & ASSESS: define the problem, gather data and review literature, consult with experts.

DP DEVELOP AOC PROJECTS: engage stakeholders to develop the set of projects that are necessary for reaching AOC goals.

IP IMPLEMENT PROJECTS: take action to improve conditions within the AOC if monitoring data shows goals are not being met.

VR VERIFY RESULTS: after actions have been taken, monitor to determine if target has been met.

RM FORMAL BUI REMOVAL: targets have been met. BUI removal documentation is being prepared or reviewed, or has been submitted.

Status of Each Phase:



There are health concerns with eating fish & wildlife



NEXT STEPS:

- Continue cleanup of riverbed sediments containing polychlorinated biphenyls (PCBs) and other toxins which contaminate fish and wildlife.
- Reassess consumption concerns of fish and wildlife following sediment cleanup actions.



Fish & wildlife populations are degraded



NEXT STEPS:

- Complete fish and wildlife population studies to assess the state of the impairment (through 2017).
- Identify/prioritize projects, with consideration for challenges of species success in an urban environment.
- Continue cleanup of polluted sites which contribute to population decline.



There are increased rates of fish tumors & deformities



NEXT STEPS:

- Continue cleanup of sites that contain polycyclic aromatic hydrocarbons (PAHs), metals and other substances that cause fish tumors.



There is increased potential for bird & animal deformities & reproductive problems



NEXT STEPS:

- Evaluate results of United States Geological Survey (USGS) tree swallow study to determine extent of impairment (impairment is suspected).
- Continue cleanup of riverbed sediments to remove harmful toxins known to cause deformities and reproduction problems.



Communities of sediment-dwelling organisms are degraded



NEXT STEPS:

- Evaluate results of USGS study of sediment-dwelling organisms to determine the health of the benthic community (2015).
- Identify additional studies to fully understand benthic conditions in the AOC.
- Continue cleanup of polluted riverbed sediments.



Dredging activities for commerce or navigation are restricted



NEXT STEPS:

- Complete cleanup to remove harmful PCBs, PAHs, and heavy metals from riverbed sediments in contaminated hotspots such as Cedar Creek, Lincoln Park and Burnham Canal.
- Assess other potential sites with polluted sediment in the Milwaukee and Menominee River and Estuary.



Excessive nutrients cause undesirable algae



NEXT STEPS:

- Complete Milwaukee Metropolitan Sewerage District (MMSD) plan on nutrient pollutant reductions needed to improve water quality (Total Maximum Daily Load plan or TMDL).
- Determine the management actions that are needed in the Estuary.



Water contact through beach use or other recreation is limited



NEXT STEPS:

- Complete bacterial source tracking project to determine the most critical areas for infrastructure improvements (through 2015).
- Support Milwaukee County and other partners to address high bacterial levels at South Shore beach.



Appearance of rivers & waterfront needs improvement



NEXT STEPS:

- Continue aesthetics monitoring with updated protocols.
- Work with local organizations to carry out volunteer data collection.
- Determine necessary projects based on monitoring results.
- Continue to support partner efforts including river cleanup events and operation of the river skimmer.



Communities of small organisms living in the water are degraded



NEXT STEPS:

- Evaluate results of USGS plankton study to determine health of the community of small organisms in the AOC (2015).
- Determine if excessive nutrients and/or toxic water conditions are causing impairment.
- Determine management actions based on study results.



Loss of fish & wildlife habitat



NEXT STEPS:

- Continue cleanup of polluted riverbed sediments and restoration projects.
- Continue to develop a list of habitat projects to address impairment using creative approaches to overcome unique habitat challenges of an urban environment.



Monitor and Assess (MA)

Develop AOC Projects (DP)

Implement Projects (IP)

Verify Results (VR)

Formal BUI Removal (RM)



BUI REMOVED

← RETURN TO PROCESS STEPS IF TARGETS NOT REACHED